

Image Set B: The Same 15 Images Processed So That, on a Photocopier, They Reproduce Better Than the High-Contrast Versions



Image 1. Mars hemisphere. Scale: Mars is 6,787 km in diameter.

Image 1 Questions

- What is the feature across the middle?
- What do you think the circles on the left side are?

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Image 2. A view across the Argyre Planitia. Scale: The large crater in the upper right is about 200 km in diameter.

Image 2 Questions

- What is the line on the horizon above the Martian surface?
- How high above the surface is it?
- What causes it to be visible?



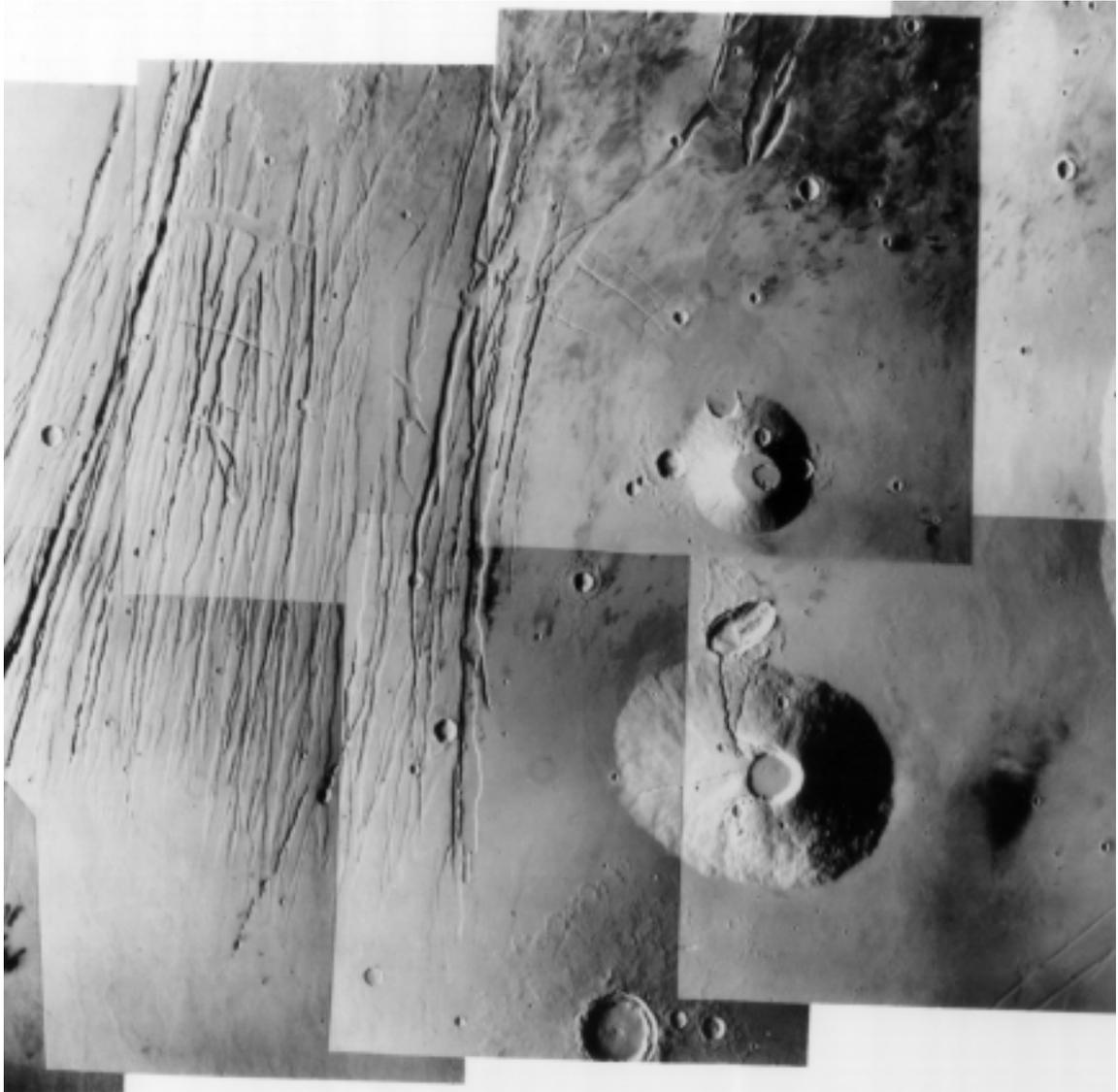


Image 3. Martian volcanoes and fault lines. Scale: The lower volcano is 90 by 130 km.

Image 3 Questions

- Which came first, the volcano or the impact craters? How can you tell?
- What might have caused the channels on the side of the volcanoes?
- What are the lines in this image? What might have caused them?

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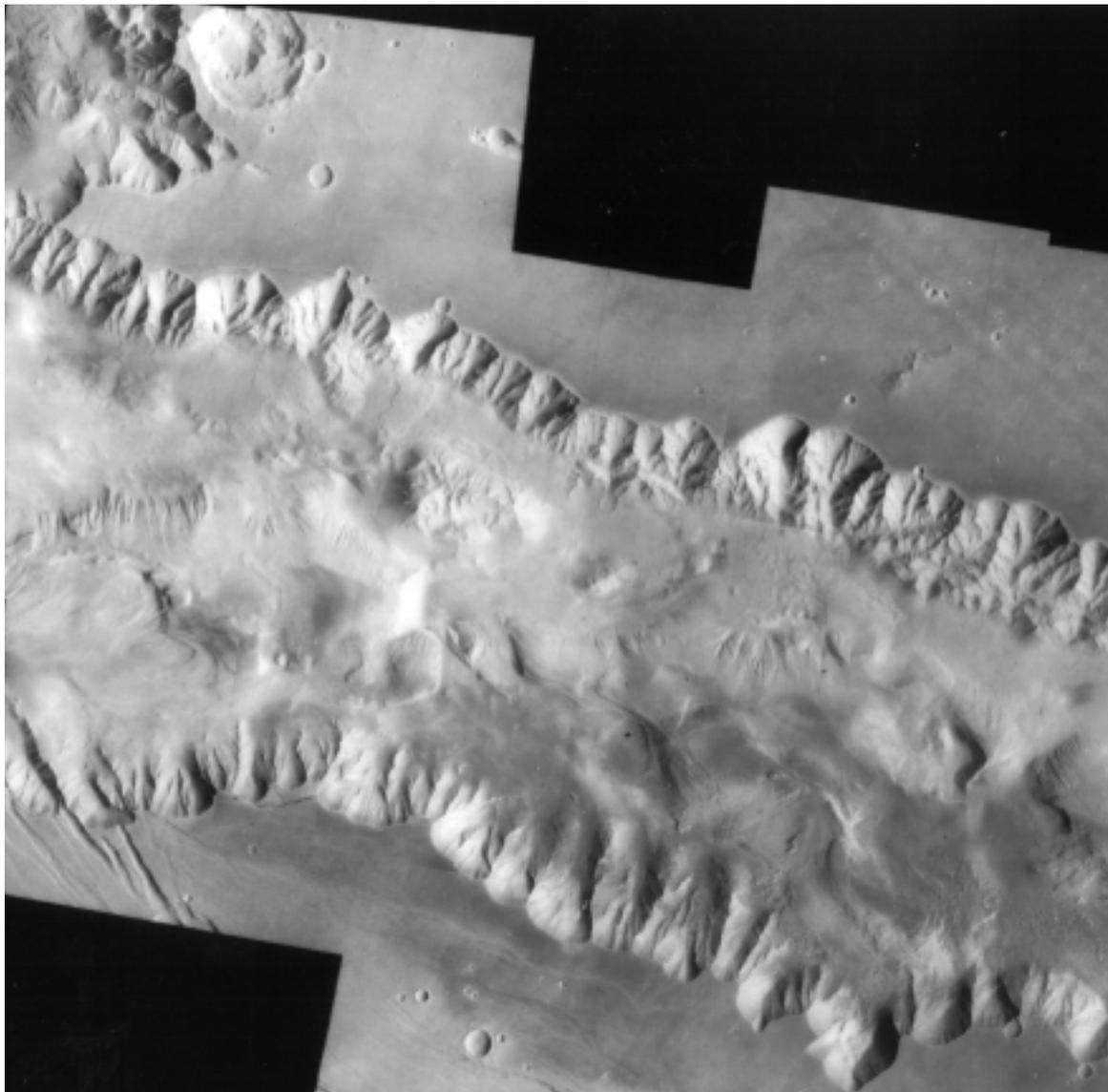


Image 4. A section of the Candor Chasm. Scale: This section is about 125 km wide and 8 km deep.

Image 4 Questions

- What do you think caused the valley?
- What do you think shaped the cliffs on the edges of the canyon?
- How did this canyon get so wide?





Image 5. Landform at the mouth of the Kasei Vallis. Scale: The crater in the lower right is about 100 km across.

Image 5 Questions

- Explain which came first, the fractures or the large crater in the center left?
- Which came first, the crater in the bottom center or the channel?
- Which direction did the fluid flow? Is any fluid apparent now?
- What caused the “tails” behind the small craters in the channel?
- What sequence of events and processes makes most sense in explaining all these features?

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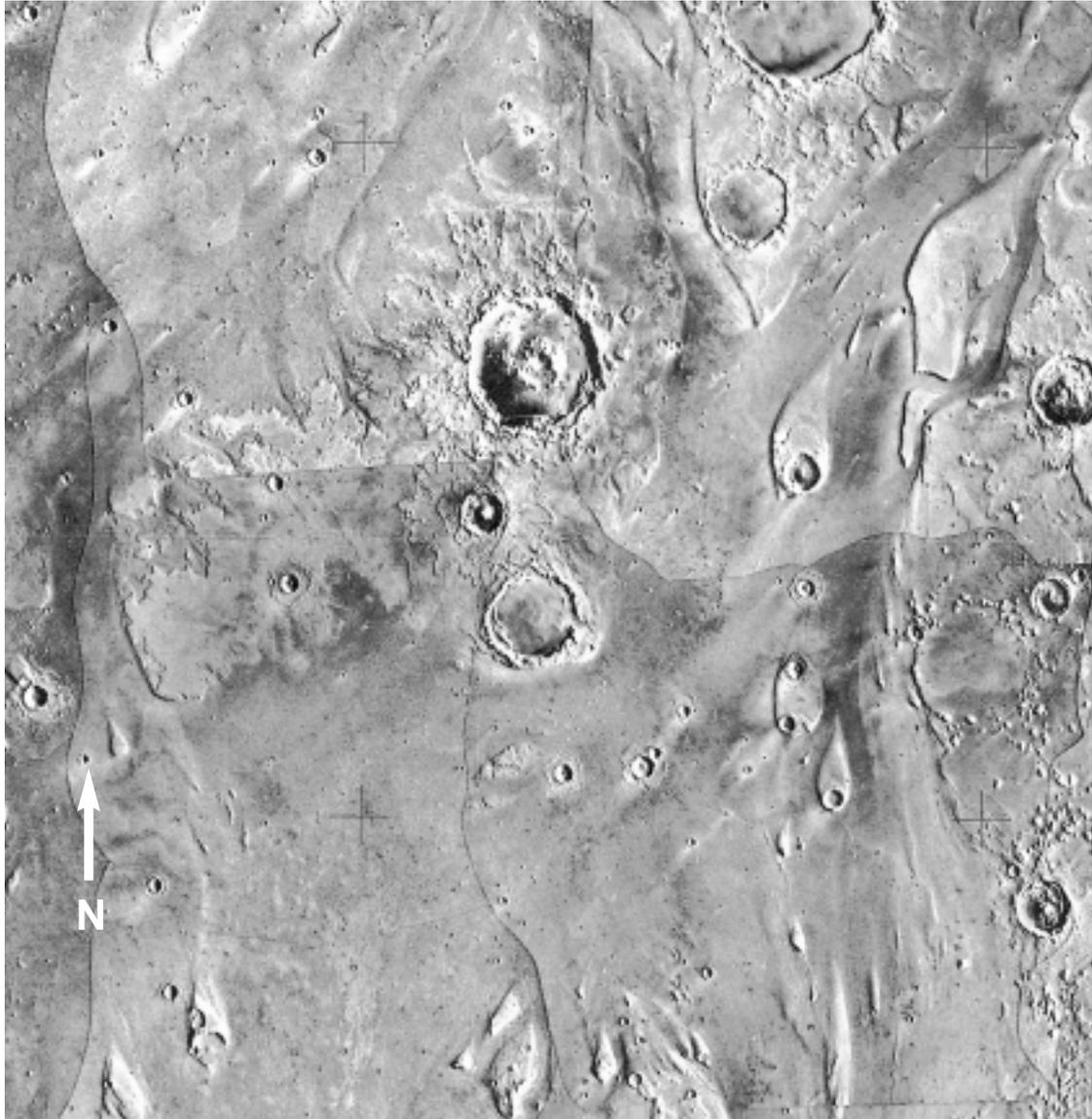


Image 6. *Pathfinder's landing site at the mouth of the Ares Vallis. Scale: The dark crater near the center is about 60 km across.*

Image 6 Questions

- What do you notice about this region?
- How might the teardrop-shaped landforms have formed?
- What might make this region a desirable landing site?
- Do you see anything that might make this an interesting area to explore?



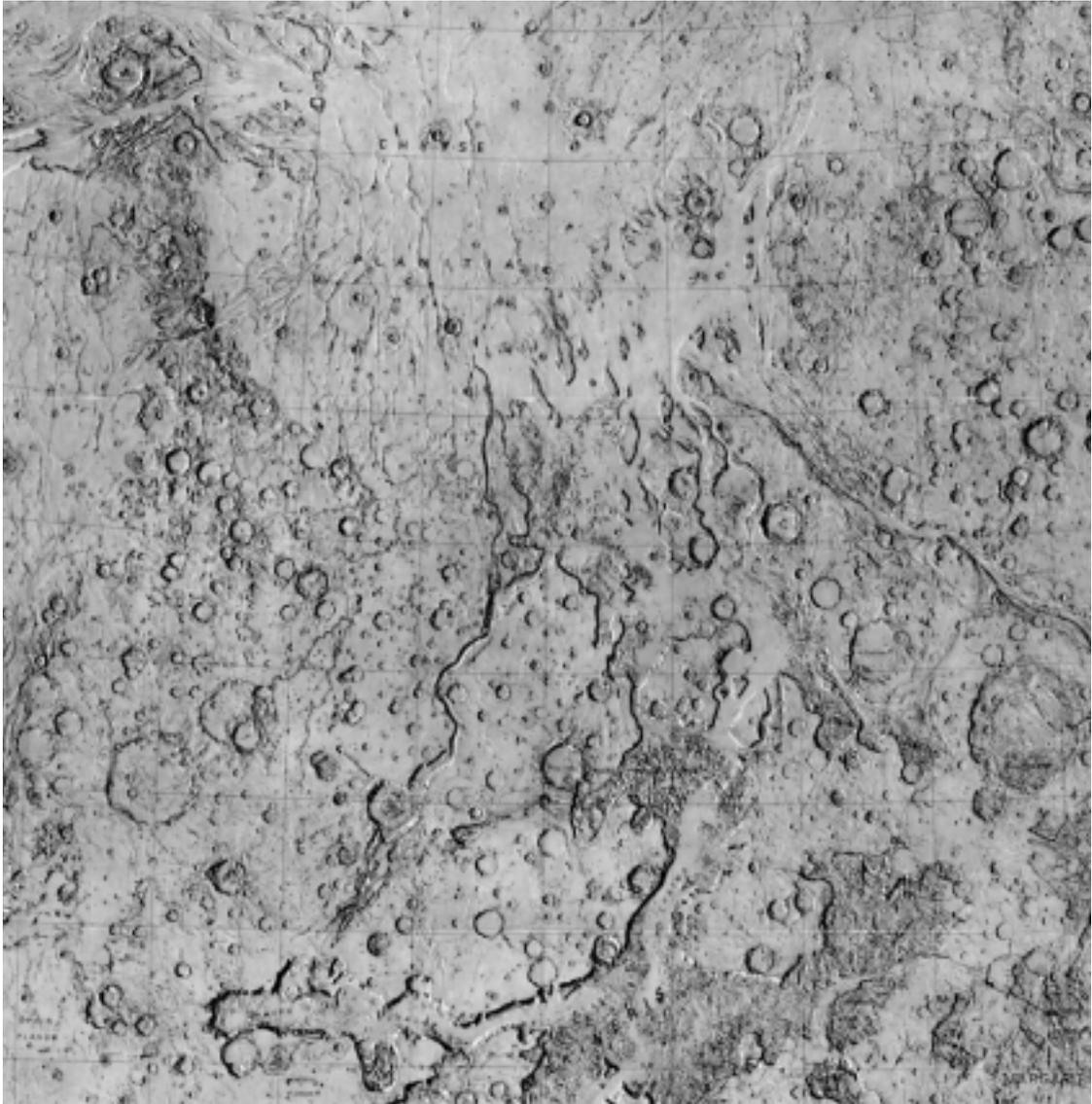


Image 7. Regional view of Ares Vallis and the Chryse Planitia. Scale: The map shows an area roughly 3,000 by 3,400 km.

Image 7 Questions

- How big is this area?
- What is the general topography of this region? Which direction is uphill?
- How much water flowed in this region, a little or a lot?
- From where might the water that flowed in these channels have come?
- Why is the area at the end of the channel so smooth?
- What do you think the Chryse Planitia looked like when water flowed in the channels?
- Describe the distribution of craters in this region.
- What might explain this pattern of distribution?
- What are some differences between the craters on the plain and in the highlands?
- What might explain the differences between the craters in these two areas?

Appendix I

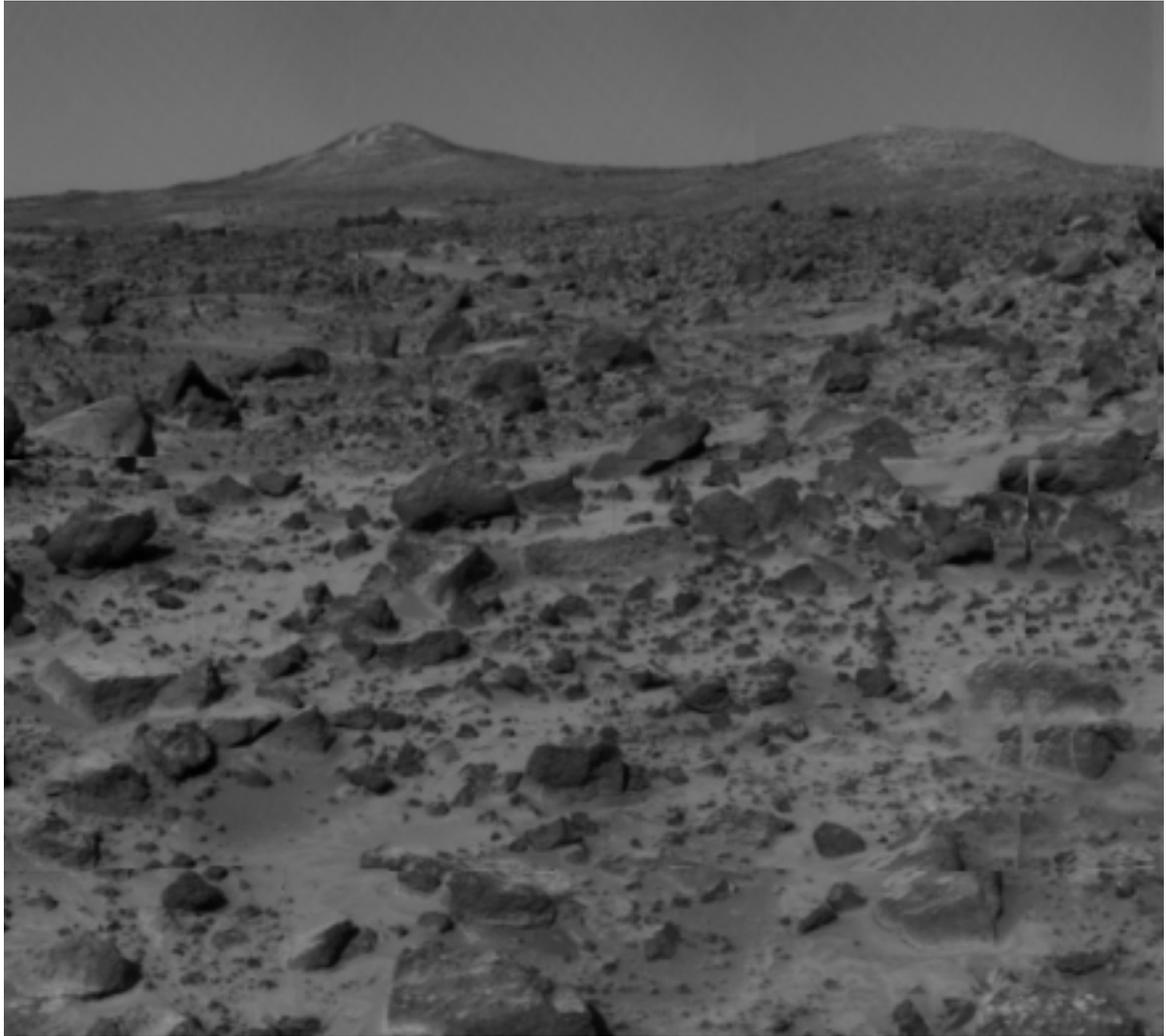


Image 8. The view from Pathfinder toward Twin Peaks. Scale: The Twin Peaks are about 1 km away and are about 50 m tall.

Image 8 Questions

- Does this look like any place on Earth?
- Why did the landing site look so smooth when it is really full of boulders?
- What are some ways a plain such as this can become littered with rocks?



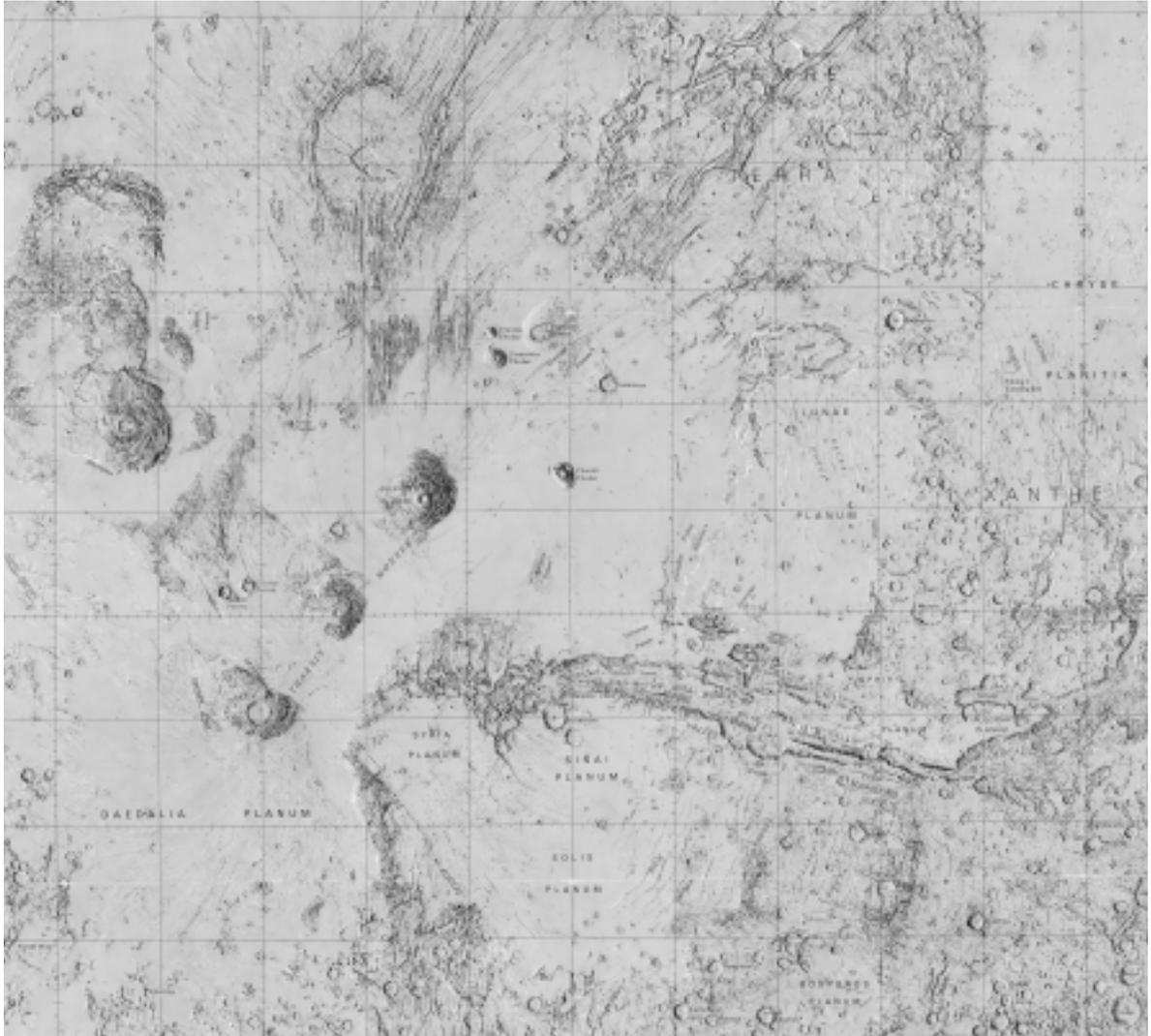


Image 9. Valles Marineris and the surrounding region. Scale: Olympus Mons, the left-hand most volcano, is about 600 km in diameter. The map shows an area roughly 8,250 by 6,750 km.

Image 9 Questions

- How many volcanoes can you find?
- How long is the large canyon?
- Does the canyon seem to be a single formation or a series of smaller, distinct canyon systems?
- What might explain having volcanoes, fractures, and canyon systems in one area of Mars?

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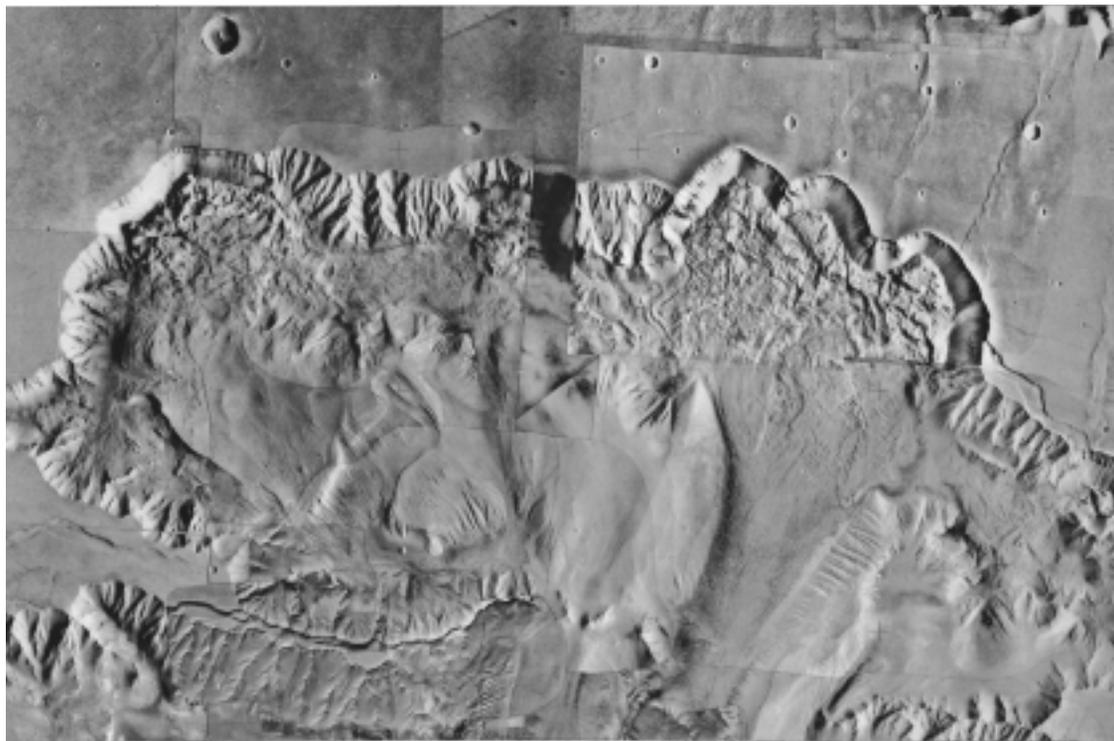


Image 10. The Ophir Chasma. Scale: The Ophir Chasma is about 125 by 325 km, and the walls are about 5 km tall.

Image 10 Questions

- What processes have affected this canyon?
- Why might the plateau be so smooth?



Image 11. The Nani Vallis. Scale: The image size is 9.8 by 15 km, and the canyon is about 2.5 km wide.

Image 11 Questions

- What processes have affected this canyon?
- What evidence is there for the idea that water flowed here?
- What evidence is there against the idea that water flowed here?

Appendix I



Image 12. Oxbows and meanders on the Red River in Campti, Louisiana. Scale: The area shown is about 10 by 17 km.

Image 12 Questions

- How are the two banks different as the river goes around a bend?
- How did the oxbow lakes form?
- How does the Red River compare with the Naniedi canyon?



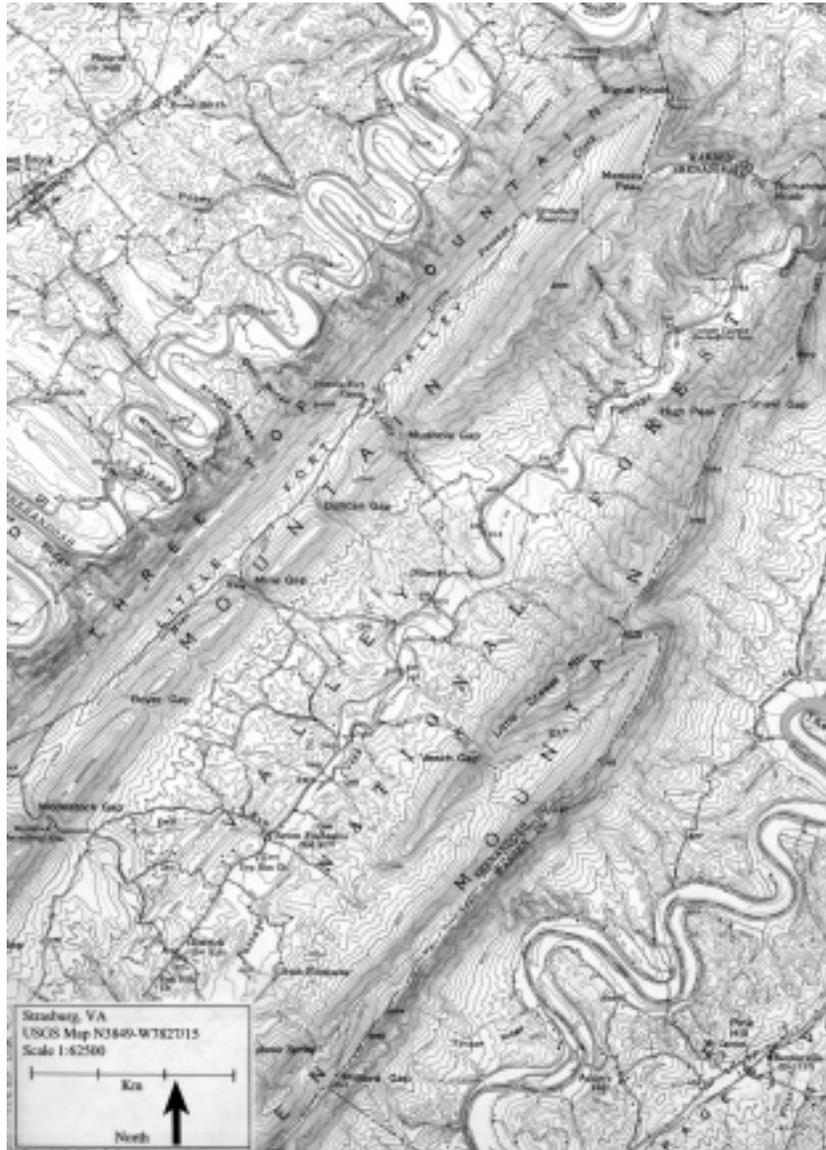


Image 13. Meanders on the Shenandoah River near Strasburg, Virginia. Scale: The area shown is about 13 by 17 km.

Image 13 Questions

- How do the valleys carved by the Shenandoah and Red Rivers compare to the Nandedi Vallis?
- How long might it take for a river to form a valley of this size?
- On which side of each sharp turn is the bank steeper?
- What factors might influence how quickly a valley forms?

Appendix I



Image 14. The Martian South Pole. Scale: This view is about 3,375 km across.

Image 14 Questions

- How might one tell whether the poles are covered with water ice or dry ice?
- What might cause the spiraling shape of the poles?



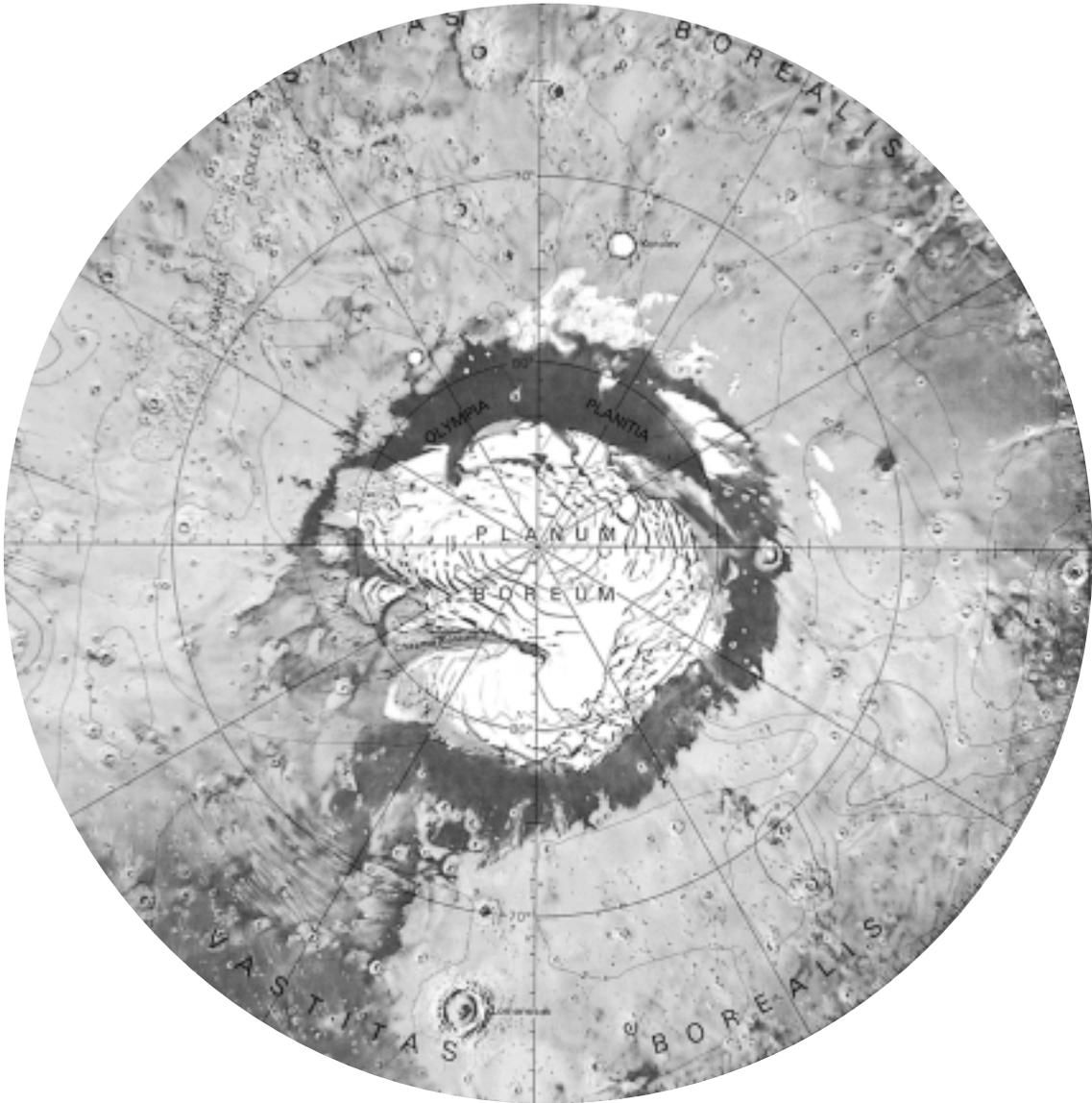


Image 15. The Martian North Pole. Scale: This view is about 3,375 km across.

Image 15 Questions

- How might one tell whether the poles are covered with water ice or dry ice?
- What might cause the spiraling shape of the poles?